

HIGH SPEED LINEAR HALF-RATE PHASE DETECTOR

ABSTRACT OF THE INVENTION

5 A high-speed, half rate phase detector provides an effective solution to the
problem of XOR gate response to the minimum width signal precursors (Q1 and Q2) of a
phase signal that indicates a phase difference between a data signal and a clock signal by
combining the precursor signals in a multiplexer and combining the multiplexed signal
with the data signal in an XOR gate. This affords the transition information in the
transitions of the precursor signals, which is significant of phase difference, without
10 requiring the XOR gate to respond to the minimum widths of those pulses.